

In the Claims:

Claims 1-27 cancelled;

Claims 39-41 amended; and

New claims 59-60 added.

Claims 1-27 (cancelled)

Claim 28 (original): A method of thermally processing one or more regions of a substrate, comprising the steps of:

- a. generating a continuous beam of radiation having a wavelength capable of heating the region; and
- b. scanning the radiation over the one or more regions in a scan direction so that each point in the one or more regions receives an amount of thermal energy capable of processing each of the one or more regions.

Claim 29 (original): The method of claim 28 wherein the substrate is monocrystalline and step b. is performed such that the image has a dwell-time over each point in the one or more regions of between a microsecond and a millisecond.

Claim 30 (original): The method of claim 29 wherein the one or more regions include integrated circuits and the radiation of step b. forms an image having a dimension perpendicular to the scan direction of 1cm or less.

Claim 31 (original): The method of claim 28 wherein:
the continuous beam of radiation has a first profile and
further includes the step of:

- c. modifying the beam of radiation to form a second profile.

Claim 32 (original): The method of claim 31 wherein step c. modifies the beam of

radiation such that the second profile forms an image having a substantially uniform intensity at the substrate.

Claim 33 (original): The method of claim 28 further includes the step of:

- c. attenuating the beam of radiation to maintain the one or more regions at a select temperature.

Claim 34 (original): The method of claim 28 wherein:

the continuous beam of radiation has output power; and
further includes the step of:

- c. varying the output power to maintain the one or more regions at a select temperature.

Claim 35 (original): The method of claim 28 further includes the step of:

- c. forming a line image.

Claim 36 (original): The method of claim 35 further includes the step of:

- d. aligning a long dimension of the line image relative to a plane defined by axes associated with incident and reflected beams of radiation.

Claim 37 (original): The method of claim 35 further includes the step of:

- d. forming the line image by reflecting the beam of radiation from a cone-shaped mirror.

Claim 38 (original): The method claim 35 wherein:

the line image has a length L1 and a width L2; and
further includes the step of:

- d. varying at least one of the length and width.

Claim 39 (currently amended) The method of claim 28 further includes the step of:
c. measuring radiation reflected from the **region of the** substrate **region**.

Claim 40 (currently amended): The method of claim 28 further includes the step of:
c. measuring the temperature of the **region of the** substrate **region**.

Claim 41 (currently amended): The method of claim 40 wherein step c. includes the step of:
i. measuring radiation emitted from the substrate in two different spectral bands.

Claim 42 (original): The method of claim 40 further includes the steps of:
d. imaging a common region of the substrate in different spectral bands with respective detector arrays; and
e. comparing respective output signals from the detector arrays to determine a hottest point in the common region and a temperature of the hottest point.

Claim 43 (original): The method of claim 28 wherein the beam of radiation is polarized.

Claim 44 (original): The method of claim 43 further includes the step of:
c. rotating the polarization of the beam of radiation by one-quarter wavelength.

Claim 45 (original): The method of claim 43 further includes the step of:
c. altering the polarization of a first beam of radiation to form a circularly polarized beam of radiation.

Claim 46 (original) The method of claim 28 wherein:
the beam of radiation is p-polarized with respect to the substrate; and

further includes the step of:

- c. irradiating the substrate with the beam of radiation at an angle equal to or near Brewster's angle.

Claim 47 (original): The method of claim 28 wherein:

the substrate is a monocrystalline semiconductor;

the beam of radiation is p-polarized; and

further includes the step of:

- c. irradiating the substrate with the beam of radiation at an incident angle of between 65° and 80°.

Claim 48 (original) The method of claim 28 wherein step b. is performed in one of a boustrophedonic pattern, a spiral pattern, and an alternating raster pattern.

Claim 49 (original) The method of claim 28 further includes the step of:

- c. varying the polarization of a first beam of radiation to maintain the substrate at a select temperature.

Claim 50 (original) The method of claim 28 wherein step b. is performed at a varying speed to maintain the substrate at a select temperature.

Claim 51 (original): The method of claim 28 wherein the wavelength of the first beam of radiation is between 9.4 and 10.8 microns inclusive.

Claim 52 (original): The method of claim 28 wherein step b., to minimize variations in radiation reflected from the substrate, includes the steps of:

- i. scanning the beam of continuous radiation over the substrate;
- ii. measuring a variation in the reflected radiation over a range of incident angles of a continuous first beam of radiation to determine an optimum incident angle

corresponding to a least variation in the amount of reflected radiation; and

iii. scanning at or near the optimum incident angle to thermally process the one or more regions.

Claim 53 (original): The method of claim 28 wherein step b., to minimize variations in maximum temperature produced on the substrate, includes the steps or:

- i. forming an image from the continuous beam of radiation;
- ii. scanning the image over the substrate;
- iii. measuring a variation in maximum temperature produced at different locations on the substrate for each incident angle over a range of incidence angles to determine an optimum incident angle corresponding to the least amount of maximum temperature variation; and
- iv. scanning at or near the optimum angle to thermally process the one or more regions.

Claim 54 (original): The method of claim 28 wherein:

the substrate is crystalline; and
step b. scans the image in a direction that minimizes the formation of slip planes in the substrate.

Claim 55 (original): The method of claim 54 wherein:

the substrate has crystal axes; and
step b. scans the image in a direction along one of the crystal axes.

Claim 56 (original) The method of claim 28 wherein:

the one or more regions include patterned features; and
further includes the steps of:

- c. forming a line image with the continuous beam of radiation; and
- d. irradiating the substrate with the continuous radiation beam at an incident

angle and with the line image at an image angle relative to the patterned features.

Claim 57 (original) The method of claim 56, wherein the incident angle and image angle are selected to minimize temperature variations over the one or more regions.

Claim 58 (original) The method of claim 57 wherein:

the substrate is crystalline; and

further includes the step of:

- e. selecting the scan direction to minimize the formation of slip planes in the substrate.

Claim 59 (new) The method of claim 46 wherein the beam of radiation is generated by an array of laser diodes.

Claim 60 (new) The method of claim 59 wherein the wavelength of the beam of radiation from the diode array is between 0.6 microns and 1.5 microns.